4. Recommended 5-year Solution

In this section, please provide a summary of the Recommended 5-year Retrofit solution by providing

How many chargers are recommended, at which stalls, and what types?

We propose that all units be provided with access to a dedicated Level 2 EV charger, with no strain on t

This is achieved by bringing each unit's meter base to a new junction box as an initial phase of deploym calls is minimized. As part of the initial rollout, a primary PLC will be installed to monitor the current an

When a unit requests an EV Charger, the junction box will be replaced with a smart load management charger while ensuring the combined load does not exceed the meter capacity. The primary PLC ensure main service by dynamically changing the EV charger setpoint of the smart load management systems.

Please provide rationale for the recommendation (informed by Section 2).

The building has a limited number of units for which EV charging is a significant consideration at this tir EV-interested owners, and ensure base-level architecture will make 100% EV charging adoption feasible interested in EV charging.

Units in this property pay for all utilities and own and maintain the infrastructure for using these servic EV charging consumption into the units' existing bills, thereby reducing administrative hassle and costs building. It aligns with the current expectation that the cost of using and providing energy services is th

Is the existing service sufficient for this solution? Why? If not, please provide the itemized details of th

Yes, the existing service is sufficient. By controlling each unit's smart load management systems from th capacity. During peak hours, a rotating schedule or queue will be used to allow all units to charge while most residents, the EV charging needs are significantly lower than those of other properties outside the to meet demand.

How many existing EV chargers will be integrated into the new EV charging system? Please include a l

All residents will have access to the proposed system. 191327W calculated load including existing heat effect on the MDP as all EV loads will be monitored and controlled autonomously via load limiter.

Please provide the conditions of the existing telecom/network infrastructure and if it can handle the

We recommend bluetooth connected chargers. Eliminating the need to rely on any network infrastruct

Please provide a high level cost estimate (in 2024 $) associated with the permitting, electrical, teleco

Initial phase 1 infrastructure EV charger ready on all units. Inspection authority, engineering, Enmax fe mechanical room to each stall at various lengths, and board approvals for use of teck vs piping, estimat cost of the preferred charger).

Please provide the specific products that will be compatible with the recommended solution for both

Preferred use chargers will consist of Bi-directional chargers to each stall. Wallbox Casar2 (not yet appr will allow each stall to back feed the grid during peak hours, creating resilience during power outages, a available immediately however, does not provide the option for bi-directional charging. VEC Load Contr https://www.v-electric.com/)

Please provide the estimated charger performance per average EV in the Property post-implementat

11.5kw charging provision. Based on ioniq 6 long range battery capacity of 77kw charge time of 6.7hr f

Post-implementation of the recommended solution, please provide the Property's expected main se current edition of the Canadian Electrical Code.

Post-implementation electrical main service size of the Property (in kW):

216.0

Post-implementation spare electrical capacity of the Property (in kW):

24.8

Please provide recommendations for how the Property owner(s) will charge residents for the chargir

System to be in parallel with existing suite panels located in the mechanical room. Each unit is currentl
charging costs to existing utlity bills. Maintenance of the all systems is the responsibility of the unit ow

Please provide any additional information that is important for this recommendation (optional).

All future AC loading in individual suites to also be accompanied by load misers to mitigate any additio

Map

answers to each of the questions below. Please fill in each blue box.

he existing electrical service.

ıent. By installing all junction boxes simultaneously, the cost of Enmax service
d voltage of the main service to the building.

system. The smart load management system routes power to the unit and EV
es that the combined draw of all meters does not exceed the capacity of the
When more EVs demand power than is available to the building, a rotating

me. The proposed design allows the building to meet the demand for
e in the future, with only incremental upgrades required by those units

es (e.g. hot water and space conditioning). The proposed design incorporates
. Additionally, the proposed design minimizes shared upfront costs for the
ıe responsibility of unit owners.

ıe service upgrades that are required.
ıe primary PLC, we will set the combined max load not to exceed the building
e maintaining a safe operating margin. Based on the driving characteristics of
e core area. As a result, we anticipate that the existing service will be sufficient

load analysis and the effect on the main distribution panel/systems.
pump air conditioning, and house panel basic requirements. No long term

new EV charging equipment.

ure.

m, and network hardware and infrastructure that is required for this solution.

es, parts, and labour estimated 55000$. Phase 2 at cost to owners from ed 1400-3900$/stall including inspection authority, parts, labour (not including

n chargers and EVEMS (if applicable).

oved by CSA standards for bidirectional charging, but available in the USA). This and allow capitalization opportunities during time of use billing. Pulsar 2 rol single/dual channel are both excellent options for this application (see

ion (include minimum kW and km charged/hour).

or average 85km/hour charge rate.

rvice size (in kW) and spare electrical capacity (in kW), calculated as per the

ıg and the recommended maintenance schedule and responsibilities.

y metered and charged separately for use. The proposed design will add
ıer.

ıal loading on each suite panels.